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ANALYTICAL REPORT

REVISED

PROJECT NO. 100.58.15

RMD CHEMICALS, INC.

Lot #: A3I100121

Dan Weed

The Payne Firm, Inc. 11231 Cornell Park Drive Cincinnati, OH 45242

SEVERN TRENT LABORATORIES, INC.

Roger K. Toth Project Manager

October 7, 2003

CASE NARRATIVE

A3I100121 Revised

The following report contains the analytical results for two water samples and one quality control sample submitted to STL North Canton by The Payne Firm, Inc. from the EMD Chemicals, Inc. Site, project number 100.58.15. The samples were received September 10, 2003, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dan Weed on September 15, 2003. A summary of QC data for this analysis is included at the rear of the report.

The results included in this report have been reviewed for compliance with the laboratory QA/QC plan. All data have been found to compliant with laboratory protocol.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.4°C.

GC/MS VOLATILES

The analytical results met the requirements of the laboratory's QA/QC program.

GC/MS SEMIVOLATILES

The analytical results met the requirements of the laboratory's QA/QC program.

METALS

The sample(s) had elevated reporting limits due to matrix interferences. Refer to the sample report pages for the affected analyte(s) flagged with "G".

GENERAL CHEMISTRY

The analytical results met the requirements of the laboratory's QA/QC program.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

OC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals
contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration
must be twenty fold less than the concentration reported in the associated environmental samples. (See common
laboratory contaminants listed below.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	<u>Metals</u>
Methylene chloride	Phthalate Esters	Copper
Acetone		Iron
2-Butanone		Zinc
		*heal

- for analyses run on TJA Trace ICP, ICPMS or GFAA only
- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

• Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, PAH, and Herbicide methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#2157), Connecticut (#PH-0590), Florida (#E87225),
Illinois (#100439), Kansas (#E10336), Kentucky (#90021), Massachusetts (#M-0H048),
Maryland (#272), Minnesota (#39-999-348), Missouri (#6090), New Jersey (#74001),
New York (#10975), North Dakota (#R-156), Ohio (#6090), OhioVAP (#CL0024),
Pennsylvania (#68-340), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003),
Tennessee (#02903), West Virginia (#210), Wisconsin (#999518190),NAVY, ARMY,
USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

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EXECUTIVE SUMMARY - Detection Highlights

A3I100121

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
MW23/090903 09/09/03 13:35 001				
Arsenic - DISSOLVED	0.065	0.010	mg/L	SW846 6010B
Arsenic	0.19	0.010	mg/L	SW846 6010B
Chromium	0.15	0.0050	mg/L	SW846 6010B
Nickel	0.12	0.040	mg/L	SW846 6010B
1,4-Dioxane	370	200	ug/L	SW846 8260B
Chloroethane	8.8	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	9.2	1.0	ug/L	SW846 8260B
Benzene	9.0	1.0	ug/L	SW846 8260B
Total Suspended	1000	8.0	mg/L	MCAWW 160.2
Solids				
MW-504/090803 09/08/03 10:15 002				
Chromium - DISSOLVED	0.020	0.0050	mg/L	SW846 6010B
Nickel - DISSOLVED	3.5	0.040	mg/L	SW846 6010B
Chromium	73.1	0.010	mg/L	SW846 6010B
Nickel	6.8	0.040	mg/L	SW846 6010B
Total Suspended Solids	170	4.0	mg/L	MCAWW 160.2

ANALYTICAL METHODS SUMMARY

A3I100121

PARAMETI	3R	ANALYTICAL METHOD		
Inductiv	vely Coupled Plasma (ICP) Metals	SW846 6010B		
	cerable Residue (TSS)	MCAWW 160.2		
Semivola	atile Organic Compounds by GC/MS	SW846 8270C		
	nductively Coupled Plasma (ICP) Metals	SW846 6010B		
	e Organics by GC/MS	SW846 8260B		
Referen	ces:			
MCAWW	"Methods for Chemical Analysis of Wate EPA-600/4-79-020, March 1983 and subse			

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A3I100121

WO # 5	SAMPLE	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
FX0GK FX0GV FX0G4	001 002 003	MW23/090903 MW-504/090803 TB05/090803	09/09/03 09/08/03 09/08/03	10:15
NOTE (S)) :			

NOIR (S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: MW23/090903

GC/MS Volatiles

Lot-Sample #...: A3I100121-001 Work Order #...: FX0GK1AA Matrix..... WG

Date Sampled...: 09/09/03 13:35 Date Received..: 09/10/03 Prep Date....: 09/12/03 Analysis Date..: 09/12/03

Prep Batch #...: 3258449

Dilution Factor: 1 Method.....: SW846 8260B

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
1,2-Dibromo-3-	ND	2.0	ug/L
chloropropane (DBCP)			_
Trichlorofluoromethane	ND	1.0	ug/L
Acetonitrile	ND	20	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Chloroprene	ND	2.0	ug/L
3-Chloropropene	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Dibromomethane	ND	1.0	ug/L
trans-1,4-Dichloro-	ND	1.0	ug/L
2-butene			-
Dichlorofluoromethane	ND	2.0	ug/L
1,4-Dioxane	370	200	ug/L
Ethyl methacrylate	ND	1.0	ug/L
Iodomethane	ND	1.0	ug/L
Isobutanol	ND	50	ug/L
Methacrylonitrile	ND	2.0	ug/L
Methyl methacrylate	ND	2.0	ug/L
Propionitrile	ND	4.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
Vinyl acetate	ND	2.0	ug/L
Chloromethane	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	8.8	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	9.2	1.0	ug/L
1,2-Dichloroethene	ND	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
			•

(Continued on next page)

Client Sample ID: MW23/090903

GC/MS Volatiles

Lot-Sample #...: A3I100121-001 Work Order #...: FX0GK1AA Matrix...... WG

		REPORTING	3
PARAMETER	RESULT	LIMIT	UNITS
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	9.0	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	ND	2.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	112	(73 - 122	2)
1,2-Dichloroethane-d4	94	(61 - 128	3)
Toluene-d8	90	(76 - 110))
4-Bromofluorobenzene	82	(74 - 116	5)

Client Sample ID: MW23/090903

GC/MS Semivolatiles

Lot-Sample #...: A3I100121-001 Work Order #...: FX0GK1AC Matrix..... WG

Date Sampled...: 09/09/03 13:35 Date Received..: 09/10/03
Prep Date....: 09/10/03 Analysis Date..: 09/30/03

Prep Batch #...: 3253236

Dilution Factor: 1 Method.....: SW846 8270C

REPORTING	
PARAMETER RESULT LIMIT UNITS	S
Phenol ND 10 ug/L	
bis(2-Chloroethyl) - ND 10 ug/L	
ether	
2-Chlorophenol ND 10 ug/L	
1,3-Dichlorobenzene ND 10 ug/L	
1,4-Dichlorobenzene ND 10 ug/L	
1,2-Dichlorobenzene ND 10 ug/L	
2-Methylphenol ND 10 ug/L	
2,2'-oxybis(1-Chloro- ND 10 ug/L	
propane)	
4-Methylphenol ND 10 ug/L	
N-Nitrosodi-n-propyl- ND 10 ug/L	
amine	
Hexachloroethane ND 10 ug/L	
Nitrobenzene ND 10 ug/L	
Isophorone ND 10 ug/L	
-Nitrophenol ND 10 ug/L	
,4-Dimethylphenol ND 10 ug/L	
ois(2-Chloroethoxy) ND 10 ug/L	
methane	
,4-Dichlorophenol ND 10 ug/L	
.,2,4-Trichloro- ND 10 ug/L	
benzene	
aphthalene ND 10 ug/L	ı
-Chloroaniline ND 10 ug/L	ı
exachlorobutadiene ND 10 ug/L	
A-Chloro-3-methylphenol ND 10 ug/L	
2-Methylnaphthalene ND 10 ug/L	
Hexachlorocyclopenta- ND 50 ug/L	ı
diene	
2,4,6-Trichloro- ND 10 ug/L	ı
phenol	
2,4,5-Trichloro- ND 10 ug/L	ı
phenol	
2-Chloronaphthalene ND 10 ug/L	
2-Nitroaniline ND 50 ug/L	
Dimethyl phthalate ND 10 ug/L	
Acenaphthylene ND 10 ug/L	
2,6-Dinitrotoluene ND 10 ug/L	İ

(Continued on next page)

Client Sample ID: MW23/090903

GC/MS Semivolatiles

Lot-Sample #...: A3I100121-001 Work Order #...: FX0GK1AC Matrix..... WG

		REPORTI	JC
DADAMETED	RESULT	LIMIT	UNITS
PARAMETER 3-Nitroaniline	ND	50	ug/L
	ND	10	ug/L
Acenaphthene	ND	50	ug/L
2,4-Dinitrophenol	ND	50	ug/L
4-Nitrophenol Dibenzofuran	ND	10	ug/L
	ND	10	ug/L
2,4-Dinitrotoluene	ND	10	ug/L
Diethyl phthalate	ND	10	ug/L
4-Chlorophenyl phenyl ether			-
Fluorene	ND	10	ug/L
4-Nitroaniline	ND	50	ug/L
4,6-Dinitro-	ИD	50	ug/L
2-methylphenol			
N-Nitrosodiphenylamine	ND	10	ug/L
4-Bromophenyl phenyl	ND	10	ug/L
ether			
Hexachlorobenzene	ND	10	ug/L
Pentachlorophenol	ND	10	ug/L
Phenanthrene	ND	10	ug/L
Anthracene	ND	10	ug/L
Carbazole	ND	10	ug/L
Di-n-butyl phthalate	ND	10	ug/L
Fluoranthene	ND	10	ug/L
Pyrene	ND	10	ug/L
Butyl benzyl phthalate	ND	10	ug/L
3,3'-Dichlorobenzidine	ND	50	ug/L
Benzo(a)anthracene	ND	70	ug/L
Chrysene	ND	10	ug/L
bis(2-Ethylhexyl)	ND	10	ug/L
phthalate			
Di-n-octyl phthalate	ND	10	ug/L
Benzo(b) fluoranthene	ND	10	ug/L
Benzo(k) fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Benzo(ghi)perylene	ND	10	ug/L
Acetophenone	ND	10	ug/L
2-Acetylaminofluorene	ND	100	ug/L
4-Aminobiphenyl	ND	50	ug/L
Aniline	ND	10	ug/L
Benzyl alcohol		2.0	/+
	ND	10	ug/L

(Continued on next page)

Client Sample ID: MW23/090903

GC/MS Semivolatiles

Lot-Sample #...: A3I100121-001 Work Order #...: FX0GK1AC Matrix..... WG

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Diallate	ND	20	ug/L
2,6-Dichlorophenol	ND	10	ug/L
Dimethoate	ND	20	ug/L
p-Dimethylaminoazobenzene	ND	20	ug/L
7,12-Dimethylbenz(a)-	ND	20	ug/L
anthracene	-		- 4 ·
3,3'-Dimethylbenzidine	ND	50	ug/L
alpha, alpha-Dimethylphenethyla	ND	50	ug/L
mine			- ·
1,3-Dinitrobenzene	ND	10	ug/L
Diphenylamine	ND	10	ug/L
Ethyl methanesulfonate	ND	10	ug/L
Hexachloropropene	ND	100	ug/L
Isosafrole	ND	20	ug/L
Methapyrilene	ND	50	ug/L
o-Toluidine	ND	20	ug/L
3-Methylcholanthrene	ND	20	ug/L
Methyl methanesulfonate	ND	10	ug/L
3-Methylphenol	ND	10	ug/L
1,4-Naphthoquinone	ND	50	ug/L
1-Naphthylamine	ND	10	ug/L
2-Naphthylamine	ND	10	ug/L
4-Nitroquinoline-	ND	100	ug/L
1-oxide			
N-Nitrosodi-n-butylamine	ND	10	ug/L
N-Nitrosodiethylamine	ND	10	ug/L
N-Nitrosodimethylamine	ND	10	ug/L
N-Nitrosomethylethylamine	ND	10	ug/L
N-Nitrosomorpholine	ND	10	ug/L
N-Nitrosopiperidine	ND	10	ug/L
N-Nitrosopyrrolidine	ND	10	ug/L
5-Nitro-o-toluidine	ND	20	ug/L
Pentachlorobenzene	ND	10	ug/L
Pentachloroethane	ND	50	ug/L
Pentachloronitrobenzene	ND	50	ug/L
Phenacetin	ND	20	ug/L
p-Phenylene diamine	ND	100	ug/L
2-Picoline	ND	20	ug/L
Pronamide	ND	20	ug/L
Pyridine	ND	20	ug/L
Safrole	ND	20	ug/L
1,2,4,5-Tetrachloro-	ND	10	ug/L
benzene			

(Continued on next page)

Client Sample ID: MW23/090903

GC/MS Semivolatiles

Lot-Sample #: A3I100121-001	Work Order #:	FX0GK1AC	Matrix: WG
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
2,3,4,6-Tetrachlorophenol	ND	50	ug/L
1,3,5-Trinitrobenzene	ND	50	ug/L
Aramite	ND	10	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Nitrobenzene-d5	81	(32 - 112)	
2-Fluorobiphenyl	58	(30 - 110)	
Terphenyl-d14	42	(10 - 144)	
Phenol-d5	65	(10 - 113)	
2-Fluorophenol	58	(13 - 110)	

67

(21 - 122)

2,4,6-Tribromophenol

Client Sample ID: MW23/090903

TOTAL Metals

Lot-Sample #...: A3I100121-001 Matrix....: WG

Date Sampled...: 09/09/03 13:35 Date Received..: 09/10/03

-						
PARAMETER	RESULT	REPORTING LIMIT	G <u>UNITS</u>	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #	: 3254106					
Arsenic	0.19	0.010	mg/L	SW846 6010B	09/11-09/12/03	FX0GK1AG
		Dilution Fact	tor: 1			
Chromium	0.15	0.0050	mg/L	SW846 6010B	09/11-09/12/03	FX0GK1AH
		Dilution Fact	tor: 1			
Nickel	0.12	0.040	mg/L	SW846 6010B	09/11-09/12/03	FX0GK1AJ
		Dilution Fact				

Client Sample ID: MW23/090903

DISSOLVED Metals

Lot-Sample #...: A3I100121-001 Matrix....: WG

Date Sampled...: 09/09/03 13:35 Date Received..: 09/10/03

Date Dampie	••••			• ,		
PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION - ANALYSIS DATE	WORK ORDER #
Prep Batch # Arsenic	: 3254106 0.065	0.010 Dilution Facto	mg/L or: 1	SW846 6010B	09/11-09/12/03	FX0GK1AD
Chromium	ND	0.0050 Dilution Factor	mg/L or: 1	SW846 6010B	09/11-09/12/03	FX0GK1AE
Nickel	ND	0.040 Dilution Fact	mg/L or: 1	SW846 6010B	09/11-09/12/03	FX0GK1AF

Client Sample ID: MW23/090903

General Chemistry

Lot-Sample #...: A3I100121-001 Work Order #...: FX0GK Matrix..... WG

Date Sampled...: 09/09/03 13:35 Date Received..: 09/10/03

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Total Suspended
 1000
 8.0
 mg/L
 MCAWW 160.2
 09/11-09/12/03
 3255093

Solids

Dilution Factor: 2

Client Sample ID: MW-504/090803

GC/MS Semivolatiles

Lot-Sample #...: A3I100121-002 Work Order #...: FX0GV1AA Matrix...... WG

Date Sampled...: 09/08/03 10:15 Date Received..: 09/10/03 Prep Date....: 09/10/03 Analysis Date..: 09/30/03

Prep Batch #...: 3253236

Dilution Factor: 1 Method.....: SW846 8270C

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Phenol	ND	10	ug/L
bis(2-Chloroethyl)-	ND	10	ug/L
ether			5.
2-Chlorophenol	ND	10	ug/L
1,3-Dichlorobenzene	ND	10	ug/L
1,4-Dichlorobenzene	ND	10	ug/L
1,2-Dichlorobenzene	ND	10	ug/L
2-Methylphenol	ND	10	ug/L
2,2'-oxybis(1-Chloro- propane)	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
N-Nitrosodi-n-propyl-	ND	10	ug/L
amine			3 ·
Hexachloroethane	ND	10	ug/L
Nitrobenzene	ND	10	ug/L
Isophorone	ND	10	ug/L
2-Nitrophenol	ND	10	ug/L
2,4-Dimethylphenol	ND	10	ug/L
bis(2-Chloroethoxy)	ND	10	ug/L
methane			
2,4-Dichlorophenol	ND	10	ug/L
1,2,4-Trichloro-	ND	10	ug/L
benzene			
Naphthalene	ND	10	ug/L
4-Chloroaniline	ND	10	ug/L
Hexachlorobutadiene	ND	10	ug/L
4-Chloro-3-methylphenol	ND	10	ug/L
2-Methylnaphthalene	ND	10	ug/L
Hexachlorocyclopenta- diene	ND	50	ug/L
2,4,6-Trichloro-	ND	10	ug/L
phenol 2,4,5-Trichloro-	NTO	10	1) or /T
phenol	ND	10	ug/L
2-Chloronaphthalene	ND	10	ug/L
2-Nitroaniline	ND	50 '	ug/L
Dimethyl phthalate	ND	10	ug/L
Acenaphthylene	ND	10	ug/L
2,6-Dinitrotoluene	ND	10	ug/L

(Continued on next page)

Client Sample ID: MW-504/090803

GC/MS Semivolatiles

Lot-Sample #...: A3I100121-002 Work Order #...: FX0GV1AA Matrix..... WG

		REPORTIN	rG
PARAMETER	RESULT	LIMIT	UNITS
3-Nitroaniline	ND	50	ug/L
Acenaphthene	ND	10	ug/L
2,4-Dinitrophenol	ND	50	ug/L
4-Nitrophenol	ND	50	ug/L
Dibenzofuran	ND	10	ug/L
2,4-Dinitrotoluene	ND	10	ug/L
Diethyl phthalate	ND	10	ug/L
4-Chlorophenyl phenyl	ND	10	ug/L
ether			
Fluorene	ND	10	ug/L
4-Nitroaniline	ND	50	ug/L
4,6-Dinitro-	ND	50	ug/L
2-methylphenol			-
N-Nitrosodiphenylamine	ND	10	ug/L
4-Bromophenyl phenyl	ND	10	ug/L
ether			•
Hexachlorobenzene	ND	10	ug/L
Pentachlorophenol	ND	10	ug/L
Phenanthrene	ND	10	ug/L
Anthracene	ND	10	ug/L
Carbazole	ND	10	ug/L
Di-n-butyl phthalate	ND	10	ug/L
Fluoranthene	ND	10	ug/L
Pyrene	ND	10	ug/L
Butyl benzyl phthalate	ND	10	ug/L
3,3'-Dichlorobenzidine	ND	50	ug/L
Benzo(a)anthracene	ND	10	ug/L
Chrysene	ND	10	ug/L
bis(2-Ethylhexyl)	ND	10	ug/L
phthalate			
Di-n-octyl phthalate	ND	10	ug/L
Benzo(b) fluoranthene	ND	10	ug/L
Benzo(k) fluoranthene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Benzo(ghi)perylene	ND	10	ug/L
Acetophenone	ND	10	ug/L
2-Acetylaminofluorene	ND	100	ug/L
4-Aminobiphenyl	ND	50	ug/L
Aniline	ND	10	ug/L
Benzyl alcohol	ИD	10	ug/L
p-Chlorobenzilate	ND	10	ug/L
-			

(Continued on next page)

Client Sample ID: MW-504/090803

GC/MS Semivolatiles

Lot-Sample #...: A3I100121-002 Work Order #...: FX0GV1AA Matrix..... WG

		DEPARETMA	REPORTING		
	DECIT T	LIMIT	UNITS		
PARAMETER	RESULT	20	ug/L		
Diallate	ND ND	10	ug/L ug/L		
2,6-Dichlorophenol	ND	20	ug/L		
Dimethoate	ND	20	ug/L		
p-Dimethylaminoazobenzene	ND ND	20	ug/L ug/L		
7,12-Dimethylbenz(a)- anthracene	ND	20	-		
3,3'-Dimethylbenzidine	ND	50	ug/L		
alpha,alpha-Dimethylphenethyla mine	ND	50	ug/L		
1,3-Dinitrobenzene	ND	10	ug/L		
Diphenylamine	ND	10	ug/L		
Ethyl methanesulfonate	ND	10	ug/L		
Hexachloropropene	ND	100	ug/L		
Isosafrole	ND	20	ug/L		
Methapyrilene	ND	50	ug/L		
o-Toluidine	ND	20	ug/L		
3-Methylcholanthrene	ND	20	ug/L		
Methyl methanesulfonate	ND	10	ug/L		
3-Methylphenol	ND	10	ug/L		
1,4-Naphthoquinone	ND	50	ug/L		
1-Naphthylamine	ND	10	ug/L		
2-Naphthylamine	ND	10	ug/L		
4-Nitroquinoline-	ND	100	ug/L		
1-oxide					
N-Nitrosodi-n-butylamine	ND	10	ug/L		
N-Nitrosodiethylamine	ND	10	ug/L		
N-Nitrosodimethylamine	ND	10	ug/L		
N-Nitrosomethylethylamine	ND	10	ug/L		
N-Nitrosomorpholine	ND	10	ug/L		
N-Nitrosopiperidine	ND	10	ug/L		
N-Nitrosopyrrolidine	ND	10	ug/L		
5-Nitro-o-toluidine	ND	20	ug/L		
Pentachlorobenzene	ND	10	ug/L		
Pentachloroethane	ND	50	ug/L		
Pentachloronitrobenzene	ND	50	ug/L		
Phenacetin	ND	20	ug/L		
p-Phenylene diamine	ND	100	ug/L		
2-Picoline	ND	20	ug/L		
Pronamide	ND /	20	ug/L		
Pyridine	ND	20	ug/L		
Safrole	ND	20	ug/L		
1,2,4,5-Tetrachloro-	ND	10	ug/L		
benzene					
- '					

(Continued on next page)

Client Sample ID: MW-504/090803

GC/MS Semivolatiles

Lot-Sample #	.: A3I100121-002	Work Order #	• FXOGVIAA	Matrix	WG
DOL-DAIIDTE #	. HOTTOUTST-OUS	MOTE OTOGE #	· · · · · · · · · · · · · · · · · · ·	Malifix	N

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
2,3,4,6-Tetrachlorophenol	ND	50	ug/L
1,3,5-Trinitrobenzene	ND	50	ug/L
Aramite	ND	10	ug/L
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	<u> </u>
Nitrobenzene-d5	80	(32 - 11	.2)
2-Fluorobiphenyl	57	(30 - 11	.0)
Terphenyl-d14	66	(10 - 14	4)
Phenol-d5	68	(10 - 11	.3)
2-Fluorophenol	57	(13 - 11	.0)

Client Sample ID: MW-504/090803

TOTAL Metals

	: A3I10012		Received	: 09/10/03	Matrix:	WG
		REPORTII	1G		PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #
Prep Batch #	: 3254106					
Arsenic	ND G	0.020	mg/L	SW846 6010B	09/11-09/12/03	FX0GV1AF
		Dilution Fac	ctor: 2			
Chromium	73.1	0.010	mg/L	SW846 6010B	09/11-09/12/03	FX0GVLAG
		Dilution Fac	ctor: 2			
Nickel	6.8	0.040	mg/L	SW846 6010B	09/11-09/12/03	FX0GV1AH
		Dilution Fac	ctor: 1			

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

NOTE(S):

Client Sample ID: MW-504/090803

DISSOLVED Metals

Lot-Sample #...: A3I100121-002 Matrix....: WG

Date Sampled...: 09/08/03 10:15 Date Received..: 09/10/03

		REPORTING	3		PREPARATION-	WORK
PARAMETER	RESULT	<u>LIMIT</u>	UNITS	METHOD	ANALYSIS DATE	ORDER #
Preo Batch #	: 3254106					
Arsenic	ND	0.010	mg/L	SW846 6010B	09/11-09/12/03	FX0GV1AC
		Dilution Fact	- -			
Chromium	0.020	0.0050	mg/L	SW846 6010B	09/11-09/12/03	FXOGVLAD
		Dilution Fact	or: 1			
Nickel	3.5	0.040	mg/L	SW846 6010B	09/11-09/12/03	FXOGVLAE
21201104		Dilution Fact	- -		,,,	

Client Sample ID: MW-504/090803

General Chemistry

Lot-Sample #...: A3I100121-002 Work Order #...: FX0GV Matrix..... WG

Date Sampled...: 09/08/03 10:15 Date Received..: 09/10/03

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Total Suspended
 170
 4.0
 mg/L
 MCAWW 160.2
 09/11-09/12/03
 3255093

Solids
Dilution Factor: 1

Client Sample ID: TB05/090803

GC/MS Volatiles

Lot-Sample #...: A3I100121-003 Work Order #...: FX0G41AA Matrix..... WQ

Prep Batch #...: 3258449

Dilution Factor: 1 Method.....: SW846 8260B

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
1,2-Dibromo-3-	ND	2.0	ug/L
chloropropane (DBCP)			
Trichlorofluoromethane	ND	1.0	ug/L
Acetonitrile	ND	20	ug/L
Acrolein	ND	20	ug/L
Acrylonitrile	ND	20	ug/L
Chloroprene	ND	2.0	ug/L
3-Chloropropene	ND	2.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Dibromomethane	ND	1.0	ug/L
trans-1,4-Dichloro-	ND	1.0	ug/L
2-butene			
Dichlorofluoromethane	ND	2.0	ug/L
1,4-Dioxane	ND	200	ug/L
Ethyl methacrylate	ND	1.0	ug/L
Iodomethane	ND	1.0	ug/L
Isobutano1	ND	50	ug/L
Methacrylonitrile	ND	2.0	ug/L
Methyl methacrylate	ND	2.0	ug/L
Propionitrile	ND	4.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
Vinyl acetate	ND	2.0	ug/L
Chloromethane	NĎ	1.0	ug/L
Bromomethane	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Methylene chloride	ND	1.0	ug/L
Acetone	ND	10	ug/L
Carbon disulfide	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethene	ND	2.0	ug/L
(total)			
Chloroform	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L

(Continued on next page)

Client Sample ID: TB05/090803

GC/MS Volatiles

Lot-Sample #...: A3I100121-003 Work Order #...: FX0G41AA Matrix..... WQ

		REPORTING	ł
PARAMETER	RESULT	LIMIT	UNITS
Bromodichloromethane	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Benzene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
4-Methyl-2-pentanone	ND	10	ug/L
2-Hexanone	ND	10	ug/L
Tetrachloroethene	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
Xylenes (total)	N D	2.0	ug/L
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Dibromofluoromethane	113	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116	;)

QUALITY CONTROL SECTION

GC/MS Volatiles

Client Lot #...: A3I100121 Work Order #...: F0C9G1AA Matrix.....: WATER

MB Lot-Sample #: A3I150000-449

Prep Date....: 09/12/03

Dilution Factor: 1

		REPORTI	PORTING		
PARAMETER	RESULT	LIMIT	UNITS	METHOD	
1,2-Dibromo-3-	ND	2.0	ug/L	SW846 8260B	
chloropropane (DBCP)					
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B	
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B	
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B	
Acetonitrile	ND	20	ug/L	SW846 8260B	
Acrolein	ND	20	ug/L	SW846 8260B	
Acrylonitrile	ND	20	ug/L	SW846 8260B	
Chloroprene	ND	2.0	ug/L	SW846 8260B	
3-Chloropropene	ND	2.0	ug/L	SW846 8260B	
Dibromomethane	ND	1.0	ug/L	SW846 8260B	
trans-1,4-Dichloro-	ND	1.0	ug/L	SW846 8260B	
2-butene			-		
Dichlorofluoromethane	ND	2.0	ug/L	SW846 8260B	
1,4-Dioxane	ND	200	ug/L	SW846 8260B	
Ethyl methacrylate	ND	1.0	ug/L	SW846 8260B	
Iodomethane	ND	1.0	ug/L	SW846 8260B	
Isobutanol	ND	50	ug/L	SW846 8260B	
Methacrylonitrile	ND	2.0	ug/L	SW846 8260B	
Methyl methacrylate	ND	2.0	ug/L	SW846 8260B	
Propionitrile	ND	4.0	ug/L	SW846 8260B	
1,2,3-Trichloropropane	ND	1.0	ug/L	SW846 8260B	
Vinyl acetate	ND	2.0	ug/L	SW846 8260B	
Chloromethane	ND	1.0	ug/L	SW846 8260B	
Bromomethane	ND	1.0	ug/L	SW846 8260B	
Vinyl chloride	ND	1.0	ug/L	SW846 8260B	
Chloroethane	ND	1.0	ug/L	SW846 8260B	
Methylene chloride	ND	1.0	ug/L	SW846 8260B	
Acetone	ND	10	ug/L	SW846 8260B	
Carbon disulfide	ND	1.0	ug/L	SW846 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B	
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B	
1,2-Dichloroethene	ND	2.0	ug/L	SW846 8260B	
(total)					
Chloroform	ND	1.0	ug/L	SW846 8260B	
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B	
2-Butanone	ND	10	ug/L	SW846 8260B	
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B	
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B	
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B	
1,2-Dichloropropane	ND .	1.0	ug/L	SW846 8260B	
_,	•		J. –		

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GC/MS Volatiles

		REPORTI!		
PARAMETER	RESULT	LIMIT	UNITS	METHOD
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Frichloroethene	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
l,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
rans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
I-Methyl-2-pentanone	ND	10	ug/L	SW846 8260B
2-Hexanone	ND	10	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
L,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Sthylbenzene	ND	1.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
Kylenes (total)	ND	2.0	ug/L	SW846 8260B
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Dibromofluoromethane	108	(73 - 1	22)	
1,2-Dichloroethane-d4	94	(61 - 1	28)	
Coluene-d8	89	(76 - 1	10)	
4-Bromofluorobenzene	80	(74 - 1)	16)	

Calculations are performed before rounding to avoid round-off errors in calculated results.

NOTE (S):

GC/MS Semivolatiles

Client Lot #...: A3I100121 Work Order #...: FX0HD1AA Matrix..... WATER

MB Lot-Sample #: A3I100000-236
Prep Date....: 09/10/03

Analysis Date..: 09/30/03 Prep Batch #...: 3253236

Dilution Factor: 1

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Phenol	ND	10	ug/L	SW846 8270C
bis(2-Chloroethyl)-	ND	10	ug/L	SW846 8270C
ether				
2-Chlorophenol	ND	10	ug/L	SW846 8270C
1,3-Dichlorobenzene	ND	10	ug/L	SW846 8270C
1,4-Dichlorobenzene	ND	10	ug/L	SW846 8270C
1,2-Dichlorobenzene	ND	10	ug/L	SW846 8270C
2-Methylphenol	ND	10	ug/L	SW846 8270C
2,2'-oxybis(1-Chloro-	ND	10	ug/L	SW846 8270C
propane)				
4-Methylphenol	ND	10	ug/L	SW846 8270C
N-Nitrosodi-n-propyl-	ND	10	ug/L	SW846 8270C
amine				
Hexachloroethane	ND	10	ug/L	SW846 8270C
Nitrobenzene	ND	10	ug/L	SW846 8270C
Isophorone	ND	10	ug/L	SW846 8270C
2-Nitrophenol	ND	10	ug/L	SW846 8270C
2,4-Dimethylphenol	ND	10	ug/L	SW846 8270C
bis(2-Chloroethoxy)	ND	10	ug/L	SW846 8270C
methane				
2,4-Dichlorophenol	ND	10	ug/L	SW846 8270C
1,2,4-Trichloro-	ND	10	ug/L	SW846 8270C
benzene				
Naphthalene	ND	10	ug/L	SW846 8270C
4-Chloroaniline	ND	10	ug/L	SW846 8270C
Hexachlorobutadiene	ND	10	ug/L	SW846 8270C
4-Chloro-3-methylphenol	ND	10	ug/L	SW846 8270C
2-Methylnaphthalene	ND	10	ug/L	SW846 8270C
Hexachlorocyclopenta-	ND	50	ug/L	SW846 8270C
diene				
2,4,6-Trichloro-	ND	10	ug/L	SW846 8270C
phenol				
2,4,5-Trichloro-	ND	10	ug/L	SW846 8270C
phenol				
2-Chloronaphthalene	ND	10	ug/L	SW846 8270C
2-Nitroaniline	ND	50	ug/L	SW846 8270C
Dimethyl phthalate	ND	10	ug/L	SW846 8270C
Acenaphthylene	ND	10	ug/L	SW846 8270C
2,6-Dinitrotoluene	ND	10	ug/L	SW846 8270C
3-Nitroaniline	ND	50	ug/L	SW846 8270C
Acenaphthene	ND	10	ug/L	SW846 8270C

(Continued on next page)

GC/MS Semivolatiles

Client Lot #...: A3I100121 Work Order #...: FX0HD1AA Matrix...... WATER

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
2,4-Dinitrophenol	ND	50	ug/L	SW846 8270C
4-Nitrophenol	ND	50	ug/L	SW846 8270C
Dibenzofuran	ND	10	ug/L	SW846 8270C
2,4-Dinitrotoluene	ND	10	ug/L	SW846 8270C
Diethyl phthalate	ND	10	ug/L	SW846 8270C
4-Chlorophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Fluorene	ND	10	ug/L	SW846 8270C
4-Nitroaniline	ND	50	ug/L	SW846 8270C
4,6-Dinitro- 2-methylphenol	ND	50	ug/L	SW846 8270C
N-Nitrosodiphenylamine	ND	10	ug/L	SW846 8270C
4-Bromophenyl phenyl ether	ND	10	ug/L	SW846 8270C
Hexachlorobenzene	ND	10	ug/L	SW846 8270C
Pentachlorophenol	ND	10	ug/L	SW846 8270C
Phenanthrene	ND	10	ug/L	SW846 8270C
Anthracene	ND	10	ug/L	SW846 8270C
Carbazole	ND	10	ug/L	SW846 8270C
Di-n-butyl phthalate	ND	10	ug/L	SW846 8270C
Fluoranthene	ND	10	ug/L	SW846 8270C
Pyrene	ND	10	ug/L	SW846 8270C
Butyl benzyl phthalate	ND	10	ug/L	SW846 8270C
3,3'-Dichlorobenzidine	ND	50	ug/L	SW846 8270C
Benzo(a) anthracene	ND	10	ug/L	SW846 8270C SW846 8270C
Chrysene	ND ND	10 10	ug/L ug/L	SW846 8270C
bis(2-Ethylhexyl) phthalate				
Di-n-octyl phthalate	ND	10	ug/L	SW846 8270C
Benzo (b) fluoranthene	ND	10	ug/L	SW846 8270C SW846 8270C
Benzo(k) fluoranthene	ND	10	ug/L	SW846 8270C
Benzo(a)pyrene	ND	10	ug/L	SW846 8270C
Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	ND ND	10 10	ug/L ug/L	SW846 8270C
· • •	ND	10	ug/L	SW846 8270C
Benzo(ghi)perylene Acetophenone	ND	10	ug/L	SW846 8270C
2-Acetylaminofluorene	ND	100	ug/L	SW846 8270C
4-Aminobiphenyl	ND	50	ug/L ug/L	SW846 8270C
Aniline	ND	10	ug/L	SW846 8270C
Benzyl alcohol	ND	10	ug/L	SW846 8270C
p-Chlorobenzilate	ND	10	ug/L ug/L	SW846 8270C
Diallate	ND	20	ug/L	SW846 8270C
2,6-Dichlorophenol	ND	10	ug/L ug/L	SW846 8270C
Dimethoate	ND	20	ug/L	SW846 8270C
p-Dimethylaminoazobenzene	ND	20	ug/L	SW846 8270C.

(Continued on next page)

GC/MS Semivolatiles

CITERC LOC #: A31100121 WOLK OLDER #: FXURDIAA MATTIX.	Lot #: A3I100121 Work Order #: FX0HD1AA Matrix:	WATER
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		REPORTIN	1G	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
7,12-Dimethylbenz(a)-	ND	20	ug/L	SW846 8270C
anthracene				
3,3'-Dimethylbenzidine	ND	50	ug/L	SW846 8270C
alpha, alpha-Dimethylphene	ND	50	ug/L	SW846 8270C
1,3-Dinitrobenzene	ND	10	ug/L	SW846 8270C
Diphenylamine	ND	10	ug/L	SW846 8270C
Ethyl methanesulfonate	ND	10	ug/L	SW846 8270C
Hexachloropropene	ND	100	ug/L	SW846 8270C
Isosafrole	ND	20	ug/L	SW846 8270C
Methapyrilene	ND	50	ug/L	SW846 8270C
o-Toluidine	ND	20	ug/L	SW846 8270C
3-Methylcholanthrene	ND	20	ug/L	SW846 8270C
Methyl methanesulfonate	ND	10	ug/L	SW846 8270C
3-Methylphenol	ND	10	ug/L	SW846 8270C
1,4-Naphthoquinone	ND	50	ug/L	SW846 8270C
1-Naphthylamine	ND	10	ug/L	SW846 8270C
2-Naphthylamine	ND	10	ug/L	SW846 8270C
4-Nitroquinoline-	ND	100	ug/L	SW846 8270C
1-oxide			•	
N-Nitrosodi-n-butylamine	ND	10	ug/L	SW846 8270C
N-Nitrosodiethylamine	ND	10	ug/L	SW846 8270C
N-Nitrosodimethylamine	ND	10	ug/L	SW846 8270C
N-Nitrosomethylethylamine	ND	10	ug/L	SW846 8270C
N-Nitrosomorpholine	ND	10	ug/L	SW846 8270C
N-Nitrosopiperidine	ND	10	ug/L	SW846 8270C
N-Nitrosopyrrolidine	ND	10	ug/L	SW846 8270C
5-Nitro-o-toluidine	ND	20	ug/L	SW846 8270C
Pentachlorobenzene	ND	10	ug/L	SW846 8270C
Pentachloroethane	ND	50	ug/L	SW846 8270C
Pentachloronitrobenzene	ND	50	ug/L	SW846 8270C
Phenacetin	ND	20	ug/L	SW846 8270C
p-Phenylene diamine	ND	100	ug/L	SW846 8270C
2-Picoline	ND	20	ug/L	SW846 8270C
Pronamide	ND	20	ug/L	SW846 8270C
Pyridine	ND	20	ug/L	SW846 8270C
Safrole	ND	20	ug/L	SW846 8270C
1,2,4,5-Tetrachloro-	ND	10	ug/L	SW846 8270C
benzene			- J,	
2,3,4,6-Tetrachlorophenol	ND	50	ug/L	SW846 8270C
1,3,5-Trinitrobenzene	ND	50	ug/L	SW846 8270C
Aramite	ND	10	ug/L	SW846 8270C
			J . –	
	PERCENT	RECOVERY	7	
SURROGATE	RECOVERY	LIMITS		
Nitrobenzene-d5	75	(32 - 11	.2)	
		. , . – – –	-	

(Continued on next page)

GC/MS Semivolatiles

Client Lot #...: A3I100121 Work Order #...: FX0HD1AA Matrix..... WATER

		REPORTING	
PARAMETER	RESULT	LIMIT UNITS	METHOD
2-Fluorobiphenyl	54	(30 - 110)	
Terphenyl-d14	67	(10 - 144)	
Phenol-d5	59	(10 - 113)	
2-Fluorophenol	56	(13 - 110)	
2,4,6-Tribromophenol	49	(21 - 122)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

TOTAL Metals

Client Lot #...: A3I100121

Matrix....: WATER

PARAMETER	RESULT	REPORTIN LIMIT	G UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample	#: A3I110000	-106 Prep B	atch #:	3254106		
Arsenic	ND	0.010	mg/L	SW846 6010B	09/11-09/12/03	FX3FJ1AN
		Dilution Fac	tor: 1			
Chromium	ND	0.0050	mg/L	SW846 6010B	09/11-09/12/03	FX3FJ1AP
		Dilution Fac	tor: 1			
Nickel	ND	0.040	mg/L	SW846 6010B	09/11-09/12/03	FX3FJ1AQ
		Dilution Fac	tor: 1			
NOTE (S) :						

Calculations are performed before rounding to avoid round-off errors in calculated results.

DISSOLVED Metals

Client Lot #...: A3I100121

Matrix....: WATER

PARAMETER	RESULT	REPORTIN LIMIT	G UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
MB Lot-Sample	#: A3I110000	-106 Prep B	atch #:	3254106		
Arsenic	ND	0.010	mg/L	SW846 6010B	09/11-09/12/03	FX3FJ1AK
		Dilution Fac	tor: 1			
Chromium	ND	0.0050	mg/L	SW846 6010B	09/11-09/12/03	FX3FJ1AL
		Dilution Fac	tor: 1			
Nickel	ND	0.040	mg/L	SW846 6010B	09/11-09/12/03	FX3FJ1AM
		Dilution Fac	tor: 1			
NOTE(S):						

Calculations are performed before rounding to avoid round-off errors in calculated results.

General Chemistry

Client Lot #...: A3I100121

Matrix....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Total Suspended Solids		Work Order	#: FX77D1AA	MB Lot-Sample #:	A3I120000-093	
	ND	4.0	mg/L	MCAWW 160.2	09/11-09/12/03	3255093
		Dilution Facto	or: 1			
אוריזיוצ (כ) .		•				

Calculations are performed before rounding to avoid round-off errors in calculated results.

GC/MS Volatiles

Client Lot #...: A3I100121 Work Order #...: F0C9G1AC-LCS Matrix..... WATER

LCS Lot-Sample#: A3I150000-449 F0C9G1AD-LCSD

Prep Date....: 09/12/03 **Analysis Date..:** 09/12/03

Prep Batch #...: 3258449

Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD RPD LIMITS	METHOD
1,1-Dichloroethene	99	(63 - 130)		SW846 8260B
•	96	(63 - 130)	2.7 (0-20)	SW846 8260B
Trichloroethene	103	(75 - 122)		SW846 8260B
	101	(75 - 122)	1.4 (0-20)	SW846 8260B
Benzene	97	(80 - 116)		SW846 8260B
	98	(80 - 116)	0.84 (0-20)	SW846 8260B
Toluene	96	(74 - 119)		SW846 8260B
	95	(74 - 119)	0.72 (0-20)	SW846 8260B
Chlorobenzene	97	(76 ~ 117)		SW846 8260B
	98	(76 - 117)	0.97 (0-20)	SW846 8260B
		PERCENT	RECOVERY	
SURROGATE		RECOVERY	LIMITS	
Dibromofluoromethane		100	(73 - 122)	
		104	(73 - 122)	
1,2-Dichloroethane-d4		94	(61 - 128)	
		88	(61 - 128)	
Toluene-d8		94	(76 - 110)	
		93	(76 - 110)	
4-Bromofluorobenzene		99	(74 - 116)	
		97	(74 - 116)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

GC/MS Semivolatiles

Client Lot #...: A3I100121 Work Order #...: FX0HD1AC-LCS Matrix.....: WATER

LCS Lot-Sample#: A3I100000-236 FX0HD1AD-LCSD

Prep Date....: 09/10/03 **Analysis Date..:** 09/12/03

Prep Batch #...: 3253236

Dilution Factor: 1

	PERCENT	RECOVERY	RPD	
PARAMETER	RECOVERY	LIMITS	RPD LIMITS	METHOD
Phenol	62	(10 - 131)		SW846 8270C
	61	(10 - 131)	1.1 (0-43)	SW846 8270C
2-Chlorophenol	63	(19 - 124)		SW846 8270C
-	63	(19 - 124)	0.35 (0-43)	SW846 8270C
1,4-Dichlorobenzene	59	(28 - 110)		SW846 8270C
	58	(28 - 110)	2.0 (0-36)	SW846 8270C
N-Nitrosodi-n-propyl- amine	77	(30 - 115)		SW846 8270C
	76	(30 - 115)	1.2 (0-36)	SW846 8270C
1,2,4-Trichloro- benzene	47	(31 - 110)		SW846 8270C
	49	(31 - 110)	2.6 (0-37)	SW846 8270C
4-Chloro-3-methylphenol	64	(29 - 124)		SW846 8270C
	65	(29 - 124)	1.0 (0-55)	SW846 8270C
Acenaphthene	66	(39 - 118)		SW846 8270C
	67	(39 - 118)	0.80 (0-35)	SW846 8270C
4-Nitrophenol	83	(19 - 144)		SW846 8270C
	82	(19 - 144)	1.7 (0-34)	SW846 8270C
2,4-Dinitrotoluene	77	(47 - 131)		SW846 8270C
	79	(47 ~ 131)	1.6 (0-32)	SW846 8270C
Pentachlorophenol	76	(10 - 140)		SW846 8270C
	73	(10 - 140)	3.4 (0-56)	SW846 8270C
Pyrene	65	(46 - 130)		SW846 8270C
	65	(46 - 130)	0.92 (0-31)	SW846 8270C
		PERCENT	RECOVERY	
SURROGATE		RECOVERY	<u>LIMITS</u>	
Nitrobenzene-d5		72	(32 - 112)	
		71	(32 - 112)	
2-Fluorobiphenyl		60	(30 - 110)	
		60	(30 - 110)	
Terphenyl-d14		66	(10 - 144)	
		64	(10 - 144)	
Phenol-d5		68	(10 - 113)	
		67	(10 - 113)	
2-Fluorophenol		71	(13 - 110)	
		70	(13 - 110)	
2,4,6-Tribromophenol		76	(21 - 122)	

(Continued on next page)

GC/MS Semivolatiles

Client Lot #...: A3I100121 Work Order #...: FX0HD1AC-LCS Matrix..... WATER

LCS Lot-Sample#: A3I100000-236 FX0HD1AD-LCSD

SURROGATEPERCENTRECOVERY76LIMITS76(21 - 122)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

TOTAL Metals

Client Lot #: A3I100121			Matrix WATER		
PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS METHOD	PREPARATION- ANALYSIS DATE WORK ORDER #		
LCS Lot-Sample#:	A3I110000-	-106 Prep Batch #: 3254106	5		
Arsenic	98	(80 - 120) SW846 6010B	09/11-09/12/03 FX3FJ1A2		
		Dilution Factor: 1			
Chromium	101	(80 - 120) SW846 6010B	09/11-09/12/03 FX3FJ1A3		
		Dilution Factor: 1	,,,,		
5743 3		/			
Nickel	99	(80 - 120) SW846 6010B	09/11-09/12/03 FX3FJ1A4		
		Dilution Factor: 1			
NOTE (S) :					

Calculations are performed before rounding to avoid round-off errors in calculated results.

DISSOLVED Metals

Client Lot #: A3I100121				Matrix: WATER			
PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS METHO	מכ	PREPARATION- ANALYSIS DATE	WORK ORDER #		
LCS Lot-Sample#:	A3I110000-	106 Prep Batch #	: 3254106				
Arsenic	98	(80 - 120) SW84	6010B	09/11-09/12/03	FX3FJ1AX		
		Dilution Factor: 1					
Chromium	101	(80 - 120) SW840	5 6010B	09/11-09/12/03	FX3FJ1A0		
		Dilution Factor: 1					
Nickel	99	(80 - 120) SW840	6 6010B	09/11-09/12/03	EV2 E T1 8 1		
NICKEI	<i>33</i>	Dilution Factor: 1	2 POTOR	09/11-09/12/03	FASFULAL		
NOTE(S):				* *** . · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		

Calculations are performed before rounding to avoid round-off errors in calculated results.

General Chemistry

Client Lot #...: A3I100121 Matrix.....: WATER

PERCENT RECOVERY PREPARATION-PREP PARAMETER RECOVERY LIMITS ANALYSIS DATE METHOD BATCH # Total Suspended Work Order #: FX77D1AC LCS Lot-Sample#: A3I120000-093 Solids 84 (66 - 119) MCAWW 160.2 09/11-09/12/03 3255093

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A3I100121 Work Order #...: FXQ5C1AC-MS Matrix.....: WATER

MS Lot-Sample #: A3I060165-001 FXQ5C1AD-MSD

Date Sampled...: 09/05/03 11:05 Date Received..: 09/06/03 Prep Date....: 09/12/03 Analysis Date..: 09/12/03

Prep Batch #...: 3258449
Dilution Factor: 2.5

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
1,1-Dichloroethene	106	(62 - 130)			SW846 8260B
	108	(62 - 130)	2.2	(0-20)	SW846 8260B
Trichloroethene	108	(62 - 130)			SW846 8260B
	97	(62 - 130)	6.0	(0-20)	SW846 8260B
Benzene	101	(78 - 118)			SW846 8260B
	107	(78 - 118)	5.2	(0-20)	SW846 8260B
Toluene	95	(70 - 119)			SW846 8260B
	96	(70 - 119)	1.3	(0-20)	SW846 8260B
Chlorobenzene	97	(76 - 117)			SW846 8260B
	100	(76 - 117)	3.2	(0-20)	SW846 8260B
					· · · · · · · · · · · · · · · · · · ·
		PERCENT		RECOVERY	
SURROGATE	_	RECOVERY		LIMITS	
Dibromofluoromethane		112		(73 - 122)
		113		(73 - 122)
1,2-Dichloroethane-d4		100		(61 - 128)
		102		(61 - 128)
Toluene-d8		94		(76 - 110)
		94		(76 - 110)
4-Bromofluorobenzene		99		(74 - 116)
		97		(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A3I100121 Matrix.....: WATER

Date Sampled...: 09/10/03 12:45 Date Received..: 09/10/03

PARAMETER	PERCENT RECOVERY	RECOVERY RPD LIMITS RPD LIMIT	rs method	PREPARATION- ANALYSIS DATE	WORK ORDER #
MS Lot-Samp	le #: A3I10	00289-002 Prep Batch	#: 3254106		
Arsenic	84	(75 - 125)	SW846 6010B	09/11-09/12/03	FX17H1AR
	83	(75 - 125) 1.1 (0-20) SW846 6010B	09/11-09/12/03	FX17H1AT
		Dilution Factor: 1			
Chromium	85	(75 - 125)	SW846 6010B	09/11-09/12/03	FX17H1AV
	85	(75 - 125) 0.72 (0-20	O) SW846 6010B	09/11-09/12/03	FX17H1AW
		Dilution Factor: 1			
Nickel	84	(75 ~ 125)	SW846 6010B	09/11-09/12/03	FX17H1A0
	83	(75 - 125) 0.99 (0-20) SW846 6010B	09/11-09/12/03	FX17H1A1
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A3I100121 Work Order #...: FX425-SMP Matrix.....: WATER

FX425-DUP

Date Sampled...: 09/10/03 12:35 Date Received..: 09/11/03

PARAM RESULT Total Suspended	DUPLICATE RESULT			RPD LIMIT	METHOD SD Lot-Sample #:	PREPARATION- ANALYSIS DATE A31110307-004	PREP BATCH #
Solids 25	29	mg/L	15	(0-20)	MCAWW 160.2	09/11-09/12/03	3255093
23		Dilution Fac		(0 20)	11011111 200.2	05,11 05,12,05	020000

Chain of Custody Record

SEVERN TRENT SERVICES

Severn Trent Laboratories, Inc.

The Payre STL-4124 (0901) Relinquished By Project Name and Location (State)

EMO Chomicul Relinquished By ☐ Non-Hazard Contract/Purchase Order/Ouote No. Relinquished By 24 Hours Turn Around Time Required Possible Hazard Identification Sample I.D. No. and Description (Containers for each sample may be combined on one line) MW 23 1(23) Could Ruik Dr. そぞ 80 ☐ Flammable 69080> 090903 508030 twa Skin Irritant 2864 126 COS 274 Poison B 9/8/03 1/8/03 Date 21 Days Unknown 1015 33 Time 1 Other by 9115 Site Contact Project Manager Date Carrier/Waybill Number Telephone Number (Area Code)/Fax Number ☐ Return To Client Sample Disposal Matrix Uan. Time Soil R. TUTH Unpres OC Requirements (Specify) H2SO4 Containers & Preservatives HNO3 HCI NaOH ZnAc/ NaOH Analysis (Attach list if Date 9/9/03 Lab Number (A fee may be assessed if samples are retained Months longer than 1 month) Chain of Custody Number 162873 Page_ Ze tak Fish to To Cr No Week A Special Instructions/ Conditions of Receipt Payne Include アアス ð Par STL North

STL Cooler Receipt Form/Narrative	Lot Number: $+3I002$
North Canton Facility	Dot Hamour. // Je Harry
	A
Client: Value Firm Project: FND Chemicals Cooler Received on: 9-10-03 Opened on: 9-10-03	Quote#: by: MAINTINO.
Cooler Received on. / /// Opened on. / /// Opened on.	(Signatura)
Fedx Cljent Drop Off UPS Airborne Other:	//(Signatury)
Cooler Safe Foam Box Client Cooler	Other:
STL Shipper No#: 199	Outer
1. Were custody seals on the outside of the cooler? Yes No	Intact? Yes No NA
If YES, Quantity Location Over 11	
Were the custody seals signed and dated?	Yes No NA NA
2. Shipper's packing slip attached to this form?	Yes No
3. Were custody papers included inside the cooler and relinquished?	Yes 🔽 🔀 🗎
4. Did you sign the custody papers in the appropriate place?	Yes No
5. Packing material used:	
Peanuts Bubble Wrap Vermiculite Foam None	Other:
6. Cooler temperature upon receipt 2,4 °C (see back of form for multip	
METHOD: Temp Vial Coolant & Sample Against Bottles	IR ICE/H ₂ 0 Slurry
COOLANT: Wet Ice Blue Ice Dry Ice Water	None
7. Did all bottles arrive in good condition (Unbroken)?	Yes No
8. Did all bottle labels and tags agree with the custody papers?	Yes No
9. Were samples at the correct pH? (record on back)	Yes No NA
10. Were correct bottles used for the tests indicated?	Yes No
11. Were air bubbles > 6 mm in any VOA vials?	Yes No NA NA
12. Was a sufficient amount of sample sent in each bottle?	Yes No Other Other
Contacted PM Date: by: via Vector Concerning:	oîce Mail Verbal Other
V MACRO MACRO	
I. CHAIN OF CUSTODY	
SR1A The chain of custody and sample bottles did not agree. The fo	Hamina disaranarajas
SKIA The chain of custody and sample bottles did not agree. The following	llowing discrepancies
Occurred	
2. SAMPLE CONDITION	
	received or requested after the
recommended holding time had expired.	
	eceived with insufficient volume.
	eceived in a broken container.
3. SAMPLE PRESERVATION	
	e further preserved in sample receiving
to meet recommended pH level(s).	Amana Passa and an amar
Nitric Acid Lot # 061603-HNO3; Sulfuric Acid Lot # 112801-H2SO4; Sodium Hydrox	ide Lot # 011102-NaOH; Hydrochloric Acid Lot #
100902-HCI; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH3COO2ZN/NaOH	<u> </u>
	ith bubble > 6 mm in diameter (cc: PM)
4. Other (see below or back)	

STL Cooler Receipt Form/Narrative North Canton Facility Client ID Date Initials Temp Method Cooler Coolant Discrepancies Cont. Macro Name: Macro Name: Macro Name: Other Anomalies:



END OF REPORT